

MIRRI – MICROBIAL RESOURCE RESEARCH INFRASTRUCTURE

Institutional profile

The Microbial Resource Research Infrastructure (MIRRI) is the pan-European distributed Research Infrastructure for the preservation, systematic investigation, provision and valorisation of microbial resources and biodiversity. It brings together 50+ microbial domain Biological Resource Centres (mBRCs), culture collections and research institutes from ten European countries and one associated country, namely: Belgium, France, Greece, Italy, Latvia, Netherlands, Poland, Portugal (headquarters), Romania, Russia and Spain. In the European Strategy Forum on Research Infrastructures (ESFRI) Roadmap since 2010, now on its Health & Food domain, MIRRI is striving to soon establish the European Research Infrastructure Consortium (ERIC).

“MIRRI envisions a greener, healthier and more sustainable world, based on the preservation, study and valorisation of microbial resources and biodiversity.”

Besides their essential role for life on Earth, microorganisms have historically been used by humankind for its benefit – for example, in food processing and preservation processes – and, in today’s world, **microbial resources are an invaluable asset for the bioindustries and the bioeconomy**, crossing domains of application as diverse as health and well-being, agro-food, new materials, environmental bioremediation, valorisation of waste and by-products, or energy production.

MIRRI sees its collections of microbial resources as treasures, in the sense that their true value comes not solely from its “possession”, rather from its use. MIRRI serves the bioscience and the bioindustry communities by facilitating the access, through a single point, to the broadest range of **400,000+ high-quality microbial resources and associated data**, covering all types of microorganisms, such as bacteria (and their cognate bacteriophages), archaea, fungi (including yeasts), eukaryotic viruses, microalgae, and other microbiological material such as cell lines, natural or constructs carrying plasmids, DNA libraries, and

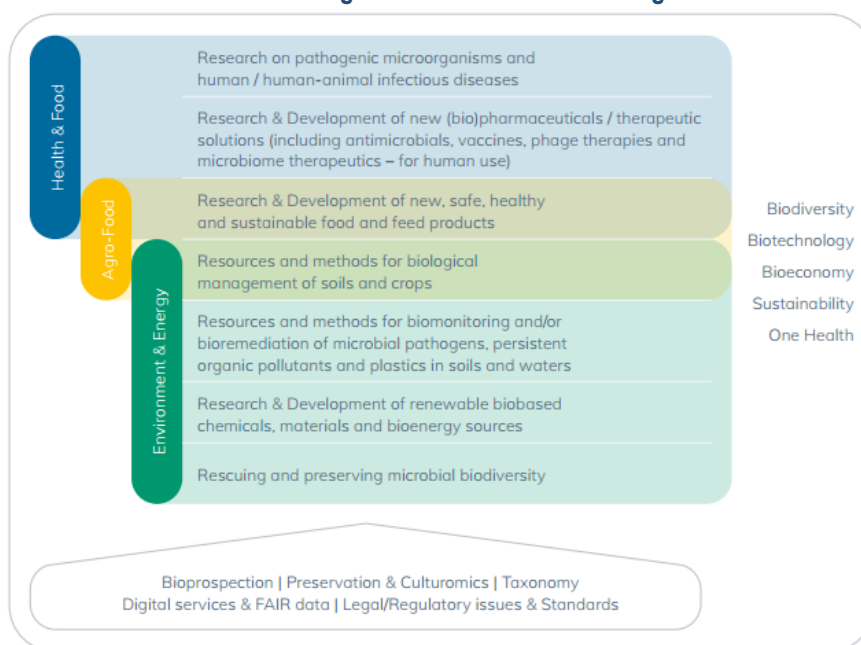
genomic DNA. From strains supporting basic research and taxonomy and those producing antimicrobials or other bioactive compounds and enzymes for the pharmaceutical industry, to others that can be used in the production of healthier food and feed products (including ingredients), upgrading residues, processing side-streams and organic wastes, in the biological management of agricultural soils and crops, in the bioremediation of polluted sites or contaminated effluents, or in the production of renewable, biobased chemicals, materials and fuels, to mention a few examples, MIRRI is very likely to hold microbial resources matching every demand from researchers and companies in the domains of **Health & Food, Agro-Food, and Environment & Energy**. Besides, based on its partner organisations’ state-of-the-art facilities and top-level expertise, MIRRI also makes available for its users a vast, diverse portfolio of **high-quality services**, ranging from general services to more application-specific ones – including pipelines of integrated, product-oriented services made available as tailor-made, turnkey solutions.



MIRRI has an open innovation-oriented culture, and strives to contribute to strengthening the European Research Area (ERA) and the EU's industrial competitiveness and strategic autonomy. High-quality bioscience research and innovative bioindustries are key contributors to tackle global societal challenges, today and in the future, towards a green, healthy and sustainable world. MIRRI endeavours to achieve these goals, and by matching the resources, capabilities and expertise of all its partner organisations with relevant global, European and national/regional agendas – such as the UN Sustainable Development Goals; the EU Horizon Europe, its Clusters, Missions and Partnerships; the ESFRI Roadmap, Strategy Report and Landscape Analysis; and the national/regional Research and Innovation Strategies for Smart Specialisation (RIS3) from its participating countries –, MIRRI has established its **Strategic Research & Innovation Agenda 2021-2030**, placing its focus, for the decade ahead, over a selected group of socioeconomically very relevant **strategic areas**:

- (1) Research on pathogenic microorganisms and human / human-animal infectious diseases.
 - (2) Research & Development of new (bio) pharmaceuticals / therapeutic solutions (including antimicrobials, vaccines, phage therapies and microbiome therapeutics – for human use).
 - (3) Research & Development of new, safe, healthy and sustainable food and feed products.
 - (4) Resources and methods for biological management of soils and crops.
 - (5) Resources and methods for biomonitoring and/or bioremediation of microbial pathogens, persistent organic pollutants and plastics in soils and waters.
 - (6) Research & Development of renewable biobased chemicals, materials and bioenergy sources.
 - (7) Rescuing and preserving microbial biodiversity.
- By serving its users, by collaborating with other research infrastructures and by working with public authorities and policy makers, **MIRRI contributes to the advancement of research and innovation in life sciences and biotechnology, and to a sustainable, competitive and resilient bioeconomy.**

Overview of MIRRI's Strategic Research & Innovation Agenda 2021-2030



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